Nikhita Joshi

PhD Candidate | HCI Researcher

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EDUCATION

Doctor of Philosophy (PhD), Computer Science (HCI)

University of Waterloo; Waterloo ON   *January 2020 - present*

- Studying human-computer interaction (HCI), working with Daniel Vogel **(GPA = 96%)**.
- Researching how user interface constraints can modify user behaviour when reading and writing.

Master of Mathematics (MMath), Computer Science (HCI)

University of Waterloo; Waterloo ON   *September 2017 - December 2019*

- Thesis-based program in HCI, working with Daniel Vogel **(GPA = 97%)**.
- Researched touch input along the edge of the table ([C1, T1]).
- Two first-author conference papers ([C1, C2]) were accepted for publication.

Bachelor of Science (BSc), Computer Science, Commerce Minor

Mount Allison University; Sackville NB   *September 2014 - May 2017*

- Finished degree one year early using International Baccalaureate (IB) credits.
- Graduated with distinction, Dean's List throughout **(GPA = 93%)**.

WORK EXPERIENCE

Research Scientist Intern

Meta/Facebook - Reality Labs Research; Toronto ON   August - December 2022 (FT); January - April 2023 (PT)

- Led an HCI research project focused on microgestures with Michael Glueck, Christopher Collins, and Parastoo Abtahi, which was accepted as a first author conference paper [C7].

Research Scientist Intern

Microsoft Research - EPIC Research Group; Redmond WA (Remote)   *May - July 2022*

- Led a research project on multi-device interactions with Nathalie Henry Riche, which was accepted as a first author extended abstract [A2].

Research Scientist Intern

Autodesk - UI Research Team; Toronto ON   *May - September 2019*

- Led an HCI research project focused on time-bounded, 1-on-1 help sessions with Fraser Anderson and Justin Matejka, which was accepted as a first author conference paper [C2].

Software Developer Intern

North Inc. - Prototyping Team (acquired by Google); Kitchener ON   *January - April 2019*

- Designed and developed prototype applications for Focals smart glasses.
- Designed and conducted technical prototype evaluations and user studies.

Software Developer Intern

J. D. Irving, Ltd. - Information Technology Department; Saint John NB   *May - August 2017*

- Conducted cost-benefit analysis of automation testing software.

Co-Founder and Vice President - Legal

Bagtown Brewing Company; Sackville NB *September 2016 - April 2017*

- Created, built, and launched a business into the market while managing a team of 2 employees.
- Obtained federal, provincial, and distributor brewing licenses and company insurance.

Business Analyst Intern

J. D. Irving, Ltd. - Information Technology Department; Saint John NB *May - August 2015*

- Created interactive, visual dashboards using Tableau.
- Managed the company's risk register to track and monitor security threats and mitigation attempts.

TEACHING EXPERIENCE

Sessional Instructor

University of Waterloo; Waterloo ON *September - December 2023*

- Taught 2 sections (250+ students total) of Management Information Systems in computer science.

Teacher's Assistant/Instructional Apprentice (TA/IA)

University of Waterloo; Waterloo ON & Mount Allison University; Sackville NB *September 2017 - present*

- Mentored software engineering students working on their final year capstone projects.
- Led computer labs as a lab instructor for an introductory computer science course.
- Developed and graded assignments and managed other TAs.

Tutor

Meighen Center - Mount Allison University; Sackville NB *October 2015 - December 2016*

- Mentored students 1-on-1 taking an introductory computer science course.
- Created sample practice questions and helped them prepare for upcoming midterms and finals.

RESEARCH AND PUBLICATIONS

Note about conference papers: In Human-Computer Interaction, conference proceedings are the preferred publication venue since they are timelier and typically have the greatest impact. Top-tier conferences are very selective with rigorous multi-stage reviews of full manuscripts creating high-quality, fully archival, proceedings.

Note about venues: CHI (ACM Conference on Human Factors in Computing Systems) and UIST (the ACM symposium on User Interface Software and Technology) are both recognized as top tier HCI conferences (Google Scholar ranks them as #1 and #3). The average acceptance rate for CHI is 23% and UIST is 21%.

PEER-REVIEWED CONFERENCE PAPERS

[C9] **Nikhita Joshi** and Daniel Vogel. 2024. *Constrained Highlighting in a Document Reader can Improve Reading Comprehension*. To Appear In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24) | ☆ **best paper award**

[C8] Yen-Ting Yeh[*], **Nikhita Joshi**[*], Daniel Vogel. 2024. *The Effects of Update Interval and Reveal Method on Writer Comfort in Synchronized Shared-Editors*. To Appear In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24) | ✳ equal contribution; ☆ **best paper honourable mention award**

[C7] **Nikhita Joshi**, Parastoo Abtahi, Raj Sodhi, Nitzan Bartov, Jackson Rushing, Christopher Collins, Daniel Vogel, Michael Glueck. 2023. *Transferable Microgestures Across Hand Posture and Location Constraints: Leveraging the Middle, Ring, and Pinky Fingers*. In Proceedings of the 2023 ACM Symposium on User Interface Software and Technology (UIST '23)

[C6] Daekun Kim, **Nikhita Joshi**, Daniel Vogel. 2023. *Perspective and Geometry Approaches to Mouse Cursor Control in Spatial Augmented Reality*. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23) | ☆ **best paper honourable mention award**

[C5] **Nikhita Joshi**, Antony Albert Raj Irudayaraj, Jeremy Hartmann, Daniel Vogel. 2022. *An Instrumented Office Chair with a Steerable Projector for Personal Spatial Augmented Reality*. In Proceedings of the 2022 ACM Symposium on Spatial User Interaction (SUI'22) | ☆ **best paper award**

[C4] **Nikhita Joshi**✣, Matthew Lakier✣, Daniel Vogel, Jian Zhao. 2022. *A Design Framework for Contextual and Embedded Information Visualizations in Spatial Augmented Reality*. In Proceedings of Graphics Interface 2022 (GI '22) | ✣ equal contribution

[C3] Antony Albert Raj Irudayaraj, Rishav Agarwal, **Nikhita Joshi**, Aakar Gupta, Omid Abari, Daniel Vogel. 2021. *PocketView: Through-Fabric Information Displays*. In Proceedings of the 2021 ACM Symposium on User Interface Software and Technology (UIST '21)

[C2] **Nikhita Joshi**, Justin Matejka, Fraser Anderson, Tovi Grossman, and George Fitzmaurice. 2020. *MicroMentor: Peer-to-Peer Software Help Sessions in Three Minutes or Less*. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20)

[C1] **Nikhita Joshi** and Daniel Vogel. 2019. *An Evaluation of Touch Input at the Edge of a Table*. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)

ADJUNCT PAPERS AND POSTERS

[A2] **Nikhita Joshi**, Richard Li, Jiannan Li, Leonardo Pavanatto, Michel Pahud, Jatin Sharma, Bongshin Lee, Hugo Romat, William Buxton, Nicolai Marquardt, Ken Hinckley, Nathalie Henry Riche. 2024. *Opportunistic Nudges for Task Migration Between Personal Devices*. To Appear In Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems (Late-Breaking Work Poster, CHI '24)

[A1] **Nikhita Joshi**. 2023. *User Interface Constraints to Influence User Behaviour when Reading and Writing*. In Adjunct Proceedings of the 2023 ACM Symposium on User Interface Software and Technology (Doctoral Symposium, UIST '23)

PREPRINTS

[X1] **Nikhita Joshi** and Daniel Vogel. 2024. *Writing with AI Lowers Psychological Ownership, but Longer Prompts Can Help*. *arXiv:2404.03108*

PATENTS

[P1] **Nikhita Joshi**, Justin Matejka, Fraser Anderson, Tovi Grossman, and George Fitzmaurice. *Computer-Based Techniques for Obtaining Personalized Assistance with Software Applications (US11677691B2)*. Granted June 2023.

THESES AND DISSERTATIONS

[T1] **Nikhita Joshi**. 2019. *Evaluating the Speed and Accuracy of Touch at the Edge of a Table*. UWSpace.

AWARDS AND RECOGNITIONS

2024   **CHI 2024 Best Paper Award (re: Constrained Highlighting** [C9]**)**
              Awarded to the top 1% of submissions to the CHI conference.

2024	**CHI 2024 Best Paper Honourable Mention Award (re: Comfort in Synchronous Editors** [C8]**)**	

2024   **CHI 2024 Best Paper Honourable Mention Award (re: Comfort in Synchronous Editors** [C8]**)**
Awarded to the top 5% of submissions to the CHI conference.

2024   **Heidelberg Laureate Forum (HLF) Young Researcher**
One of 200 selected to attend; for top young researchers in math and computer science.

2023   **CHI 2023 Best Paper Honourable Mention Award (re: SAR Cursor** [C6]**)**
Awarded to the top 5% of papers of the CHI conference.

2023 - 2025   **David R. Cheriton Graduate Scholarship** (institutional) — $10,000 per year
Awarded to top PhD students based on academic excellence and research potential.

2022   **SUI 2022 Best Paper Award (re: SAR Chair** [C3]**)**
Awarded to the top paper of the SUI conference.

2020 - 2023   **Alexander Graham Bell Graduate Scholarship (NSERC CGS-D)** (national) — $35,000 per year
Awarded to top PhD students based on academic merit, research potential, and leadership (top 17%).

2020   **Ontario Graduate Scholarship (OGS)** (provincial, **declined for NSERC CGS-D**) — $15,000
Awarded to top graduate students based on academic merit, research potential, and leadership.

2020 - 2023   **UW President's Scholarship** (institutional) — $10,000 per year
Awarded to top graduate students who hold major federal or provincial awards (e.g., NSERC).

2020 - 2022   **David R. Cheriton Graduate Scholarship** (institutional) — $10,000 per year
Awarded to top PhD students based on academic excellence and research potential.

2020 - 2024   **Math Domestic Scholarship** (institutional, **declined for NSERC CGS-D**) — $6,000 per year
Awarded to incoming Canadian graduate students.

2020   **Provost Doctoral Entrance Award for Women** (institutional) — $5,000
Awarded to top female PhD students based on academic excellence.

2019   **Graduate Student Research Travel Assistantship** (institutional) — $500
Awarded to support research-related travel.

2018, 2019   **Barbara Roth-Hayes Scholarship** (institutional) — $5,000, $2,000
Awarded to top female graduate students based on academic excellence.

2017 - 2019   **Math Domestic Graduate Scholarship** (institutional) — $5,000 per year
Awarded to incoming Canadian graduate students.

2017 - 2018   **UW Provost Scholarship** (institutional) — $15,000
Awarded to top graduate students based on academic excellence.

2014 - 2017   **Dean's List** (institutional)
Recognition given to full-time students who have maintained a first-class average (≥ 3.7/4.3).

2014 - 2017   **Garnet Scholarship** (institutional) — $12,000 over 4 years
Awarded to undergraduate students based on academic excellence.

SERVICE

ACADEMIC

Program Committee Member *February 2022*
- Served as a program committee member for GI 2022.

Peer Reviewer *2020 - present*
- Reviewed papers for CHI, UIST, DIS, IJHCS, and GI

Student Volunteer *2019, 2021, 2023, 2024*
- Supported various conference activities for CHI and UIST.
- Helped organize the program committee for UIST 2023

WatCHI Conference Organizing Chair

University of Waterloo; Waterloo ON *2020*

- Organized a virtual conference for the HCI groups at the university (in response to COVID-19).

COMMUNITY

Canada HCI Organizer and Moderator *June 2020 - present*

- Created and managed a Slack community (Canada HCI) for HCI researchers across Canada.

Math/CS Society Executive

Mount Allison University; Sackville NB *2015-2017*

- Organized social events for math and computer science students.

Dance Teacher

Mount Allison University; Sackville NB *2015-2017*

- Choreographed 2 routines and ran practices every week.

MENTORING

January 2022 - April 2023   **Daekun Kim** - Undergraduate Research Fellow
University of Waterloo ([C6])

January - April 2019   **Amber Ma** - Undergraduate Research Assistant
University of Waterloo

PRESS

Note: Only a sample of press is listed below.

re: **SAR Chair** [C5]

- Interviews on the main UWaterloo and School of Computer Science's websites   *March 2023*
- Article featured on ACM's TechNews   *March 2023*

re: **PocketView** [C3]

- Interviews on the main UWaterloo and School of Computer Science's websites   *October 2021*
- Articles featured in ACM's TechNews, Arduino   *October 2021*